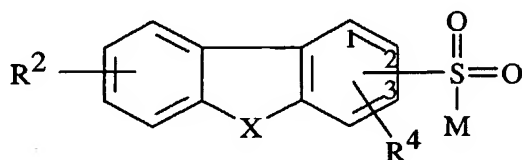


# CLAIMS

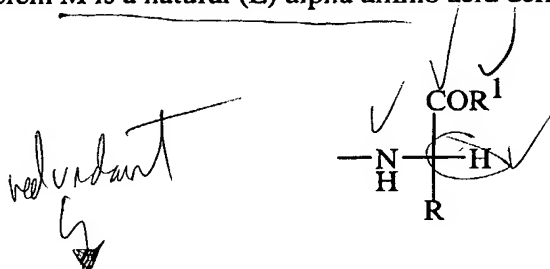
What is claimed is:

1. A method of treating multiple sclerosis, the method comprising administering to a patient having multiple sclerosis a therapeutically effective amount of a compound of Formula I



I

wherein M is a natural (L) alpha amino acid derivative having the structure



X is O, S, S(O)<sub>n</sub>, CH<sub>2</sub>, CO, or NR<sup>Q</sup>;

R<sup>Q</sup> is hydrogen, C<sub>1</sub>-C<sub>6</sub> alkyl, or -C<sub>1</sub>-C<sub>6</sub> alkyl-phenyl;

R is a side chain of a natural alpha amino acid;

R<sup>1</sup> is C<sub>1</sub>-C<sub>5</sub> alkoxy, hydroxy, or -NHR<sup>5</sup>;

R<sup>2</sup> and R<sup>4</sup> are independently hydrogen, -C<sub>1</sub>-C<sub>5</sub> alkyl, phenyl -NO<sub>2</sub>,

halogen, -OR<sup>5</sup>, -CN, -CO<sub>2</sub>R<sup>5</sup>, -SO<sub>3</sub>R<sup>5</sup>, -CHO, -COR<sup>5</sup>,

-CONR<sup>5</sup>R<sup>6</sup>, -(CH<sub>2</sub>)<sub>n</sub>NR<sup>5</sup>R<sup>6</sup>, -CF<sub>3</sub>, or -NHCOR<sup>5</sup>;

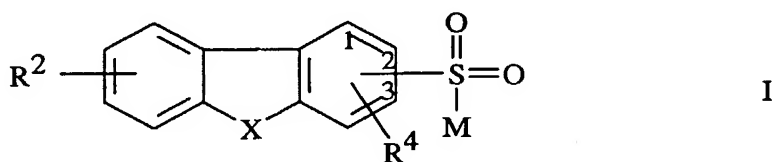
each R<sup>5</sup> and R<sup>6</sup> are independently hydrogen or C<sub>1</sub>-C<sub>5</sub> alkyl; and

n is 0 to 2, and the pharmaceutically acceptable salts, esters, and amides thereof, wherein the esters thereof are selected from C<sub>1</sub>-C<sub>6</sub> alkyl esters,

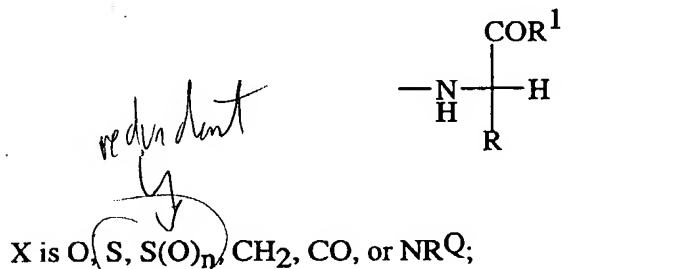
C<sub>5</sub>-C<sub>7</sub> cycloalkyl esters, and arylalkyl esters and the amides thereof are

derived from ammonia, primary C<sub>1</sub>-C<sub>6</sub> alkyl amines, secondary C<sub>1</sub>-C<sub>6</sub> dialkyl, and 5- and 6-membered heterocyclic amines containing one nitrogen atom; and wherein the group S(=O)<sub>2</sub>M is optionally bonded to the 1-, 2-, or 3-position of Formula I.

2. A method of treating arthritis, the method comprising administering to a patient having arthritis a therapeutically effective amount of a compound of Formula I



wherein M is a natural (L) alpha amino acid derivative having the structure



R<sup>Q</sup> is hydrogen, C<sub>1</sub>-C<sub>6</sub> alkyl, or -C<sub>1</sub>-C<sub>6</sub> alkyl-phenyl;

R is a side chain of a natural alpha amino acid;

R<sup>1</sup> is C<sub>1</sub>-C<sub>5</sub> alkoxy, hydroxy, or -NHOR<sup>5</sup>;

R<sup>2</sup> and R<sup>4</sup> are independently hydrogen, -C<sub>1</sub>-C<sub>5</sub> alkyl, phenyl -NO<sub>2</sub>,

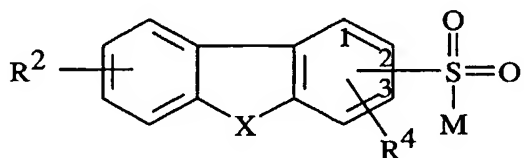
halogen, -OR<sup>5</sup>, -CN, -CO<sub>2</sub>R<sup>5</sup>, -SO<sub>3</sub>R<sup>5</sup>, -CHO, -COR<sup>5</sup>,

-CONR<sup>5</sup>R<sup>6</sup>, -(CH<sub>2</sub>)<sub>n</sub>NR<sup>5</sup>R<sup>6</sup>, -CF<sub>3</sub>, or -NHCOR<sup>5</sup>;

each R<sup>5</sup> and R<sup>6</sup> are independently hydrogen or C<sub>1</sub>-C<sub>5</sub> alkyl; and

n is 0 to 2, and the pharmaceutically acceptable salts, esters, and amides thereof, wherein the esters thereof are selected from C<sub>1</sub>-C<sub>6</sub> alkyl esters, C<sub>5</sub>-C<sub>7</sub> cycloalkyl esters, and arylalkyl esters and the amides thereof are derived from ammonia, primary C<sub>1</sub>-C<sub>6</sub> alkyl amines, secondary C<sub>1</sub>-C<sub>6</sub> dialkyl, and 5- and 6-membered heterocyclic amines containing one nitrogen atom; and wherein the group S(=O)<sub>2</sub>M is optionally bonded to the 1-, 2-, or 3-position of Formula I.

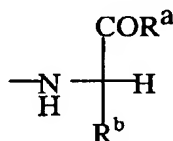
3. A compound of Formula I



I

wherein M is a natural (L) alpha amino acid derivative having the structure

*Handwritten note:*  $\Delta$  *reduced when*  
 $\downarrow$   $n=0$



X is S, S(O)<sub>n</sub>, CH<sub>2</sub>, CO, or NR<sup>Q</sup>;

R<sup>b</sup> is a side chain of a natural alpha amino acid;

R<sup>a</sup> is C<sub>1</sub>-C<sub>5</sub> alkoxy, hydroxy, or -NHOR<sup>5</sup>;

R<sup>2</sup> and R<sup>4</sup> are independently hydrogen, -C<sub>1</sub>-C<sub>5</sub> alkyl, phenyl -NO<sub>2</sub>,

halogen, -OR<sup>5</sup>, -CN, -CO<sub>2</sub>R<sup>5</sup>, -SO<sub>3</sub>R<sup>5</sup>, -CHO, -COR<sup>5</sup>,

-CONR<sup>5</sup>R<sup>6</sup>, -(CH<sub>2</sub>)<sub>n</sub>NR<sup>5</sup>R<sup>6</sup>, -CF<sub>3</sub>, or -NHCOR<sup>5</sup>;

each R<sup>5</sup> and R<sup>6</sup> are independently hydrogen or C<sub>1</sub>-C<sub>5</sub> alkyl; and

n is 0 to 2, and the pharmaceutically acceptable salts, esters, and amides thereof, wherein the esters thereof are selected from C<sub>1</sub>-C<sub>6</sub> alkyl esters, C<sub>5</sub>-C<sub>7</sub> cycloalkyl esters, and arylalkyl esters and the amides thereof are derived from ammonia, primary C<sub>1</sub>-C<sub>6</sub> alkyl amines, secondary C<sub>1</sub>-C<sub>6</sub> dialkyl, and 5- and 6-membered heterocyclic amines containing one nitrogen atom; and wherein the group S(=O)<sub>2</sub>M is optionally bonded to the 1-, 2-, or 3-position of Formula I.